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ABSTRACT

An informal reading inventory (IRI), a nonstandardized individual test often constructed by the classroom teacher, can help teachers and clinicians in giving students appropriate reading materials and in diagnosing the strategies students use in reading. This annotated bibliography was designed to aid beginning teachers, as well as more experienced teachers. Entries are listed under the following categories: basic information on IRIs--history and critique, overview, and guidelines for contruction and use; dilemmas with IRIs--descriptive reports and research reports; comparing IRIs and standardized tests; psycholinguistic insights into reading errors; and related factors. Lists of unpublished materials (master's theses and doctoral dissertations) and of published reading inventories are also included. (JM)

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ASSESSING READING BEHAVIOR:

Informal Reading Inventories

An Annotated Bibliography

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INTRODUCTION

An informal reading inventory (IRI) is a nonstandardized individual test often constructed by the classroom teacher. The student is asked to read increasingly difficult word lists and reading passages. As the student reads the word lists and passages, the teacher records his/her miscues. After reading the passages, the student is asked a series of questions to check his/her comprehension of the material. On the basis of this reading, the teacher determines the student's functional reading levels.

The IRI can help teachers and clinicians place students in appropriate reading materials and diagnose the strategies they use to make meaning from print. Our experiences with IRIs over the past decade have led us to a firm belief that one of the most significant steps a teacher can take to enhance reading abilities is to place students in reading materials that are at appropriate levels of difficulty. Although this step will not solve all the problems in personalizing reading instruction, we believe it can make a substantial contribution to promoting reading achievement. Professionals who administer IRIs can also gain insights into the strategies students use to process print. These insights often can serve as the point of departure for adjusting instruction given to individual students. IRIs can be valuable tools for use in classroom or clinical situations; nevertheless, they are frequently overlooked by busy professionals who are anxious to place students in books.

This annotated bibliography was designed to aid beginners in education as well as more experienced teachers. We want to help beginning professionals become receptive to the values of IRIs. The introduction to each of the major sections is intended to help those unfamiliar with IRIs to understand the problems and issues involved with their use. We want to provide a focal point for the beginner without misleading the sophisticated professional, whose knowledge of IRIs we seek to refine.

Sources included in this bibliography were chosen on the basis of their potential to increase understanding of IRIs. The listing of publications is fairly inclusive from 1970 through 1976, although it is not exhaustive. Many applicable selections written prior to 1970 were also incorporated into this resource guide. Even though some sources are pertinent to more than one category, each entry appears only once—in the section deemed to be most appropriate.

We have tried to provide an annotated bibliography that will be useful to a large number of educators. Our labors will be well-served if professionals at varying levels of expertise are stimulated to expand the use of IRIs in promoting literacy.

BASIC INFORMATION ON INFORMAL READING INVENTORIES

The annotations in this section deal with literature relating to the historical development of IRIs and guidelines for their construction and use. The contributions by Pikulski, Farr, Hollander, Aaron, Betts, Johnson and Kress, and Valmont should be of particular value to professionals who seek background information about understanding, constructing, and using IRIs.

History and Critique

BELDIN, H. O. "Informal Reading Testing: Historical Review and Review of the Research," in William K. Durr (Ed.), *Reading Difficulties: Diagnosis, Correction, and Remediation*. Newark, Delaware: International Reading Association, 1970, 67-84.

Presents a historical overview of the thinking, experience, and literature of the analysis of reading performance. The author peruses the years from 1900 to 1969 for specific contributions to the present development of the IRI. Reading authorities are cited along with their research and conclusions on criteria, sources of test materials, and evaluations of word perception errors. Included is a list of references that have had significant input into the IRI.

PIKULSKI, JOHN. "A Critical Review: Informal Reading Inventories," *Reading Teacher*, 28 (November 1974), 141-151.

Briefly discusses the early history of informal diagnostic procedures, points out the continued existence of several perplexing problems regarding the use of IRIs, and reviews problem areas with the idea of approaching some possible solutions. The IRI is discussed with regard to establishment of levels, evaluation of validity and reliability, use of quantitative or qualitative criteria, and type of questions which should be included. The author also describes a study conducted by William Powell concerning the criteria for selecting the instructional level on an IRI.

WALTER, RICHARD. "History and Development of the Informal Reading Inventory," 1974. Microfiche ED 098 539.

Presents the history of the IRI and the problem of selecting performance criteria, validity, and reliability and discusses the value of IRIs for determining the instructional level of pupils. Paper concludes with selected literature which supports the contention that most teachers cannot be successful in using the IRI without training in construction, administration, and interpretation of such an instrument.

Overview

AUSTIN, MARY C., and MILDRED H. HUEBNER. "Evaluating Progress in Reading Through Informal Procedures," *Reading Teacher*, 15 (March 1962), 338-343.

Authors maintain that teacher evaluation of student reading progress should be a continuous process that incorporates the findings of both informal and formal measures in order to provide for accurate appraisal and selection of appropriate materials. The authors discuss the value and types of informal procedures and consider the use of both group and individual inventories.

BARBE, WALTER B. *Educator's Guide to Personalized Reading Instruction*. Englewood Cliffs, New Jersey: Prentice-Hall, 1961.

First part of Chapter 5 deals with determining children's reading levels through informal means. Explores factors which may influence reading levels. Standardized measures are generally evaluated and the IRI, as developed by Betts, is recommended. Provides a copy of an IRI from the Betts Reading Clinic.

BETTS, EMMETT ALBERT. "Success Levels for Retarded Readers," *Education*, 77 (March 1957), 399-403.

Uses an analogy between track skills and reading skills to point out the importance of recognizing and making allowance for individual differences. A case study of a fifth grade boy, whose instructional level is significantly below grade placement, is used to illustrate the fact that the number and intensity of symptoms of reading difficulty multiply at each progressing level. The author also suggests that even the most competent student has a level of difficulty beyond his capabilities and no student should be asked to read at a level where he will not experience reasonable success.

BRACKEN, DOROTHY KENDALL. "Diagnostic Techniques for Classroom Use," in H. Alan Robinson and Sidney J. Rauch (Eds.), *Corrective Reading in the High School Classroom*. Newark, Delaware: International Reading Association, 1966, 23-26.

Views diagnosis as an ongoing activity and discusses various methods of diagnosis in the classroom. In this article, the IRI is regarded as yielding a fairly accurate instructional reading level, in addition to other information about the child which may prove useful in subsequent teaching. The practical nature of the IRI is presented, and some general guidelines for its construction and use are noted. The author makes reference to other sources of information pertinent to the IRI.

CONKLIN, NORMA K. "Identifying the Disabled Reader," in Dorothy L. DeBoer (Ed.), *Reading Diagnosis and Evaluation*, 1968 Proceedings, Volume 13, Part 4. Newark, Delaware: International Reading Association, 1970, 11-16.

Article initially discusses some possible causes of reading difficulties stating

such factors as physical limitations, health problems, environmental experiences, emotional problems, and individual differences. Also discusses the independent, instructional, frustration, and capacity levels of an IRI, as well as basic composition and administration.

CORLETT, DONNA. "Evaluation of Reading in the Classroom," *Reading Improvement*, 11 (Winter 1974), 20-22.

Suggests two practical, efficient methods of evaluating the reading of a total secondary classroom to aid the teacher in assessing the suitability of a particular textbook. Discusses briefly the constructing and scoring of a group IRI and the cloze method.

DOLCH, EDWARD W. "How to Diagnose Children's Reading Difficulties by Informal Classroom Techniques," *Reading Teacher*, 6 (January 1953), 10-14.

Describes an informal method the teacher may use to assess children with reading difficulties and techniques to determine weaknesses in knowledge of sight vocabulary, word attack, and comprehension. Included is a concise outline containing important aspects of reading that should be noted by the teacher when examining each child.

DULIN, KENNETH L. "Measuring the Difficulty of Reading Materials," *Reading Improvement*, 8 (Spring 1971), 3-6.

Presents, in brief steps, three quick ways to measure the readability of classroom materials on the elementary and secondary levels. The Fog Index, the cloze technique, and how to determine Betts' reading levels are outlined with basic references for each.

ELLER, WILLIAM. "Determining Reading Levels for Instruction," in J. Allen Figurel (Ed.), *Reading and Inquiry*, 1965 Proceedings, Volume 10. Newark, Delaware: International Reading Association, 1965, 187-188.

Contends that elementary school teachers are fairly diligent in their efforts to appraise student reading levels, but the determination of reading levels in colleges and universities does not appear to be of major concern. Author points out that most of the widely-used tests of reading at the college level provide only general surveys of reading ability and that several sets of exercises and informal tests should be constructed by college reading instructors to supply more specific diagnostic information. This effort on the part of the college instructor hopefully would result in a customized reading laboratory in accordance with the stated reading objectives of his respective institution.

FARR, ROGER. *Reading: What Can Be Measured?* Newark, Delaware: International Reading Association, 1969.

Discusses many aspects of measurement in reading, including methods for assessing achievement and issues in measuring reading subskills and reading-

related variables. The IRI is discussed specifically in Chapter 3. Included are indexes that provide information on particular IRIs and their respective reviews.

CEESLIN, ROBERT H. "The Placement Inventory Alternative," *Reading Teacher*, 25 (January 1972), 332-335.

Suggests that the placement inventory is the most practical and efficient technique for determining a student's functional reading level. Eight steps outline the suggested method for administering the placement inventory. The author also discusses the usefulness of observing student anxiety during the reading situation, and notes the point at which frustration is manifested by a dramatic rise of miscueing, usually evidenced as the student exceeds a 10 percent error rate.

HOLLANDER, SHEILA K. "Why's a Busy Teacher Like You Giving an IRI?" *Elementary English*, 51 (September 1974), 905-907.

Encourages the busy teacher to consider the benefits that can be derived through the administration of an IRI and, further, to compare these results with those obtained from a standardized test. Author presents the IRI as more viable than a standardized instrument in assessing a child's reading level and suggests practical procedures for using the IRI in the classroom.

JOHNSON, MARJORIE SEDDON. "Reading Inventories for Classroom Use," *Reading Teacher*, 14 (September 1960), 9-13.

Proposes that reading needs can best be determined by observation of pupil performance in an actual reading situation. The group reading inventory is viewed as the most efficient classroom tool available for assessing individual levels of instructional and independent functioning, specific strengths and weaknesses, and other abilities which might influence performance in reading. Author discusses the purposes, procedures, and materials for teacher administration of a group inventory.

LA PRAY, MARGARET, and RAMON ROSS. "The Graded Word List: Quick Gauge of Reading Ability," *Journal of Reading*, 12 (January 1969), 305-307.

Though not appropriate for all students, the graded word list has two main uses: 1) to determine reading levels and 2) to detect errors in word analysis. The administration, content, and analysis of such a list are enumerated.

LEVIN, BEATRICE J. "The Informal Reading Inventory," *Reading Improvement*, 8 (Spring 1971), 18-20.

Indicates three ways of determining instructional reading levels: 1) teacher observation; 2) standardized tests; and 3) IRIs, with the latter being considered most valid. The group IRI is described as the most efficient method to ascertain instructional levels of all class members. Article enumerates five steps in ad-

ministering a group inventory, discusses the record keeping involved, and shows how to evaluate reading levels and pupil needs.

LIVINGSTON, HOWARD F. "Measuring and Teaching Meaning with an Informal Reading Inventory," *Elementary English*, 51 (September 1974), 878-879, 895.

Author favors IRIs to standardized reading tests and feels that the use of examiner judgment is a strength of this informal approach. Livingston states, however, that present inventories are either not consistent with, or only partially cover, the skills and abilities inherent in the reading process. The article is an attempt to direct the refinement of IRI questions. The author contends that an IRI is needed that is specifically derived from the general hierarchical comprehension skills: literal comprehension, interpretation, and critical reading. All three areas are explored briefly, and the author suggests the use of this hierarchy with all reading materials for formulating good questions and teaching reading skills.

LOVITT, T. C., AND CHERYL L. HANSEN. "Round One—Placing the Child in the Right Reader," *Journal of Learning Disabilities*, 9 (June/July 1976), 18-24.

Discusses a method for placing children in appropriate readers which combines aspects of the IRI with techniques developed by applied behavior analysts. Each of the seven intermediate grade boys who served as subjects were placed in a reader based on three performance scores: correct oral reading rate, incorrect oral reading rate, and correct comprehension percentage. The effectiveness of the placement method was measured in terms of how successfully it predicted subsequent reading performance in the assigned readers. The authors report that after placement in appropriate readers, all students progressed satisfactorily during the remainder of the school year.

MCGINNIS, DOROTHY J. "Making the Most of Informal Inventories," in Dorothy L. DeBoer (Ed.), *Reading Diagnosis and Evaluation*, 1968 Proceedings, Volume 13, Part 4. Newark, Delaware: International Reading Association, 1970, 93-99.

Suggests that reading and nonreading areas can be observed and evaluated through the perceptive use of informal inventories. Author defines informal inventories; points out the importance of careful, objective, yet flexible observations; and indicates how observations may lead to hunches regarding the student's reading difficulties. A list of inferences, made from observations of a specific student, is provided for evaluation.

OLIVER, MARVIN C. "Reading Performance and Rectangles," *Education*, 92 (November/December 1971), 68-69.

Contends that providing for individual differences is the great task of teachers of elementary reading. Means for assessing the most appropriate reading levels

for a given child are reviewed through a discussion of various formal and informal measures. Author relates his experiences with IRIs and emphasizes the need for teacher skill and insight in determining at which level of challenge an individual would profit most from instruction.

ROGERS, C. D. "Diagnosing Reading Needs Through the Telltale Error," *Reading Improvement*, 11 (Winter 1974), 48-49.

Discusses the value of analyzing the types of errors children make and regarding these errors as cues to corrective needs. Author cites examples of errors in need of analysis in auding, visual perception, body-spatial orientation, word recognition, oral language skills, and comprehension. The premise is discussed that analyzing each error, as on an IRI, enables the teacher to locate immediate skill needs.

RUPLEY, WILLIAM H. "Informal Reading Diagnosis," *Reading Teacher*, 29 (October 1975), 106-107, 109.

Reviews some of the informal ways teachers can assess a student's reading skills. IRIs are presented as one method of appraisal. Discusses briefly advantages and disadvantages of commercially prepared and teacher prepared IRIs. Summarizes research studies focusing on the criteria for placing students in books as well as the use of IRIs in staff development programs.

WOLFE, JOSEPHINE B. "Informal Reading Diagnosis," in Albert J. Mazurkiewicz (Ed.), *New Perspectives in Reading Instruction* (Second Edition). New York: Pitman Publishing, 1968, 397-401.

Lists ten specific reminders for teachers who are concerned with diagnosing student reading problems and suggests that informal diagnostic measures are best. Three guidelines for informal diagnosis are delineated and five suggestions to aid in accurate and successful diagnosis are discussed. The interrelations between the various aspects of language are emphasized.

Guidelines for Construction and Use

AARON, IRA E. "An Informal Reading Inventory," *Elementary English*, 37 (November 1960), 457-460.

Discusses how an IRI can be administered with any series of basal readers. Author includes initial steps necessary in preparing to give an IRI with a basal series, procedure used in the administration of the informal, criteria for success, and comparison between his procedure and those usually recommended for administering an IRI. Includes an example of an IRI guide sheet which the teacher may use to record significant factors of student performance.

AARON, ROBERT L. "Using the Cloze and Sight Vocabulary to Develop a Group Informal Reading Inventory," May 1975. Microfiche ED 108 115.

Describes a test (Aaron VoCom) which was constructed using a combination of basic sight words and cloze sentences into which the sight words were to be placed. Author compares this test to the traditional IRI and other individual testing techniques (Classroom Reading Inventory, Slosson Oral Reading Test, and the Schonnell). A group of forty-five second and third grade students served as the sample. After administering the various tests, comparisons revealed that the Aaron VoCom was as accurate as the individual IRI and more accurate than the Slosson and Schonnell in placing students at their instructional levels. Author cites the time-saving qualities of the Aaron VoCom as its major advantage.

AUSTIN, MARY C., CLIFFORD L. BUSH, and MILDRED H. HUEBNER. *Reading Evaluation*. New York: Ronald Press, 1961.

Appendix contains an IRI based on the Sheldon Basic Reading Series, Allyn and Bacon. Paragraph levels range from preprimer to eighth reader level (second and third levels are divided into semesters), with an oral and silent paragraph for each level and questions following each paragraph. Chapter 1 contains some general information on IRIs.

BERGER, ALLEN, and CONSTANCE KAUTZ. "The Braille Informal Reading Inventory," *Reading Teacher*, 21 (November 1967), 149-152.

Authors discuss the development of the Braille IRI which was based upon the Diagnostic Test in the Sheldon Basic Reading Series. Using the graded reading passages of the Braille IRI, the teacher can observe how the blind child uses his fingers in moving to a new line, which hand is more dominant, and the amount of touch-voice span which reveals if the child is reading word-by-word or in a more meaningful manner. Many additional reading behaviors also can be observed and analyzed. Authors delineate research possibilities which could further the development and refinement of the Braille IRI.

BETTS, EMMETT ALBERT. *Foundations of Reading Instruction*. New York: American Book, 1957.

Chapter 21 deals with specific reading needs and includes very specific and detailed information on IRIs. The IRI is discussed in terms of uses, basic assumptions, reading levels, inventory construction, general administration procedure, limitations, advantages, and use of group inventories. Chapter includes examples of separate checklists that can be used by experienced and inexperienced examiners to record observations made during IRI administrations and also includes a summary form used in the author's reading clinic.

DORINSON, ZENA, and MARGARET FIEDLER. "The Effect of Informal Reading Inventory on a High School Reading Program," in J. Allen Figurel (Ed.), *Reading and Realism*, 1968 Proceedings, Volume 13, Part 1. Newark, Delaware: International Reading Association, 1969, 789-794.

Discusses one high school's concern about the instructional reading needs of 1,200 incoming students, more than a third of whom were socially different. An inservice training session was devoted to learning to construct and administer an IRI. The methods and procedures involved, as well as certain conclusions, are stated. In summary, both teachers and students saw positive benefits resulting from constructing and using IRIs.

JOHNSON, MARJORIE SEDDON, and ROY A. KRESS. *Informal Reading Inventories.* Newark, Delaware: International Reading Association, 1965..

Discusses techniques for developing and using IRIs. The idea is presented that teaching provides many opportunities for informal diagnosis and evaluation and the implementation of this concept is expounded. Delineates procedures for group and individual inventories.

JOHNSON, MARJORIE SEDDON, and ROY A. KRESS. "Individual Reading Inventories," in Leo M. Schell and Paul C. Burns (Eds.), *Remedial Reading: Classroom and Clinic* (Second Edition). Boston: Allyn and Bacon, 1972, 185-206.

This detailed and comprehensive article seeks to explain basic concepts, purposes, and criteria for IRIs. The four sections of the total process of an IRI are explained: pupil-examiner readiness, word recognition test, reading inventory, and listening inventory. Includes instructions for scoring, recording errors, evaluating oral rereading, and recapitulating the results. Sections of specific protocols are included for various illustrations. Authors conclude that the IRI is a clinical device and that results from an administration are as good as the examiner.

LEIBERT, ROBERT E. "The Development of Informal Tests of Reading and the Analysis of the Reading Performance of Adults Attending Basic Education Classes," September 1969. Microfiche ED 034 963.

Describes a project which resulted in the development of an informal reading test from basic education teaching materials and investigated reading performance at six levels among adults attending basic education classes. The author relates how the six most discriminating word lists and six pairs of adult interest reading passages, having similar readability levels, were identified and a form was used to test fifty-six adults. Discusses the most prevalent oral reading errors, reading speeds, and comprehension abilities of the adults tested in this study. Article includes twelve appendixes to illustrate some of the materials used in this study and thirteen tables to present study data.

LEIBERT, ROBERT E. "Establishing Criteria for Instructional Placement on the Basis of Performance on the Adult Informal Reading Test and a Standardized Test," January 1973. Microfiche ED 099 666.

The project to develop a diagnostic test for adults attending literacy classes was conducted in two phases. First, an Adult Informal Reading Test (AIRT) was

administered, scored, and interpreted by the project team. These results and guidelines for the advancement of adults in reading materials were communicated to cooperating project teachers, who then conducted the test with a nationwide sample of adults. The tests were scored and interpreted by the project team. Although the national test population was less than half the desired number, it seemed consonant with national statistics collected at the same time. Several areas of investigation led to inconclusive results because of the decline in the sample population size, but it was determined that the project did not succeed in identifying an instructional placement level through the use of the AIRT. Changes varied in word recognition, accuracy, rate, and comprehension of material read orally among adults with similar instructional programs and AIRT pretest scores. It was concluded that the AIRT must still be used primarily as an instrument to measure specific reading performances. Two forms of the AIRT, relevant data on reading level of the materials, population distribution, and reading scores, are included in the appendix.

LIVINGSTON, HOWARD F. "Measuring and Teaching Meaning with an Informal Reading Inventory," *Elementary English*, 51 (September 1974), 878-879, 895.

After questioning the efficacy of standardized reading tests, author suggests an IRI that uses questions based on: 1) concepts of literal comprehension (understanding what is explicitly stated); 2) interpretation (understanding what is implied, reasoning from explicit facts and details); and 3) critical reading (the reader's evaluation and judgment of the material). Includes examples of the specific content for questions within each of the three areas.

MCCRACKEN, ROBERT A. "The Informal Reading Inventory as a Means of Improving Instruction," in Thomas C. Barrett (Ed.), *The Evaluation of Children's Reading Achievement*. Newark, Delaware: International Reading Association, 1967, 79-96.

Author's presentation is organized into two main thrusts. The first defines an IRI, tells how to administer it, and states objective standards for evaluating its results. The second deals in a very general sense with the use of IRI results in the classroom. Discussion tends to parallel procedures used in McCracken's Standard Reading Inventory. The author does not necessarily see the IRI as a diagnostic tool, but rather as a placement tool.

O'BRIEN, PATTI. "An Informal Reading Inventory—A New Approach," paper presented at the International Reading Association Convention, Anaheim, California, May 1970. Microfiche ED 046 672.

Writer believes the IRI is a sound diagnostic instrument. Traditional IRIs, however, are constructed on random selections of passages from texts and tend to give inaccurate placements of children in materials. Author states that inaccurate placement is the result of text pages not always containing enough new words to sample the child's ability to handle grade level vocabulary. A

new design for an IRI is suggested in which new words from the text are used to construct original paragraphs. A field study using this new IRI is described and when compared with a traditional IRI and the Gray Oral Reading Test, results indicated that the new IRI: 1) presented fewer total number of words per selection with more new words in each; 2) required fewer selections to be read; and 3) gave an instructional level that, in ten cases, was lower than the traditional IRI.

VALMONT, WILLIAM J. "Creating Questions for Informal Reading Inventories," *Reading Teacher*, 25 (March 1972), 509-512.

Proposes that designing and constructing an IRI increases its value to the user. The quality of its questions is particularly important in an IRI. Based upon personal experience, the author offers twenty specific guidelines in the preparation of questions for an IRI. Types of questions include: main idea, detail, inference, conclusion, organization, cause and effect, and vocabulary. Helpful examples are given for each question type.

WINDELL, IDAJEAN. "Development and Evaluation of a Module to Train Special Education Teacher Trainees to Determine a Pupil's Instructional Reading Level," December 1975. Microfiche ED 111 142.

Describes the development and evaluation of a module for teaching special education teacher trainees to determine a pupil's instructional reading level through the use of an IRI. Part 1, Developing the Instructional Module, covers needs assessment, review of relevant literature, review and evaluation of existing modules, task and concept analyses used to formulate instructional objectives for the module, design of criterion-referenced tests and prototype materials, and formative evaluation. Part 2 discusses the project's summative evaluation phase, in which the module's effectiveness was tested with sixty-two university students enrolled in three special education methods classes. It was concluded that the module was an effective tool for helping trainees to determine the instructional reading levels of exceptional pupils. Included in the extensive appendixes are materials for the needs assessment study; detailed instructions for utilizing, coding, analyzing, scoring, and interpreting an IRI; and a sample achievement test with scoring rules and answer key.

ZINTZ, MILES V. *Corrective Reading* (Second Edition). Dubuque, Iowa: William C. Brown, 1972.

Chapter 2 presents basic ideas about classroom inventories, including finding the instructional level and recording the errors. Several sample protocols are given with discussion of the specific reader's behavior.

ZINTZ, MILES V. *The Reading Process: The Teacher and the Learner* (Second Edition). Dubuque, Iowa: William C. Brown, 1975.

Based on the premise that a large percentage of children are being taught to

read at their frustration levels and that the classroom teacher has a responsibility to assess more accurately a child's reading abilities, the author devotes Chapter 4 to a comprehensive overview of the IRI. Betts' ten advantages of an IRI are listed; then, the author proceeds to define an IRI, outline four reading levels, state the limitations of an IRI, and give directions for IRI construction. Tips are presented on administering an IRI, marking and scoring, and interpreting results in terms of specific difficulty levels of books for children to read. Also included are sample protocols to guide the reader's understanding and a list of references for further reading.

DILEMMAS WITH INFORMAL READING INVENTORIES

Promoters of IRIs are probably cognizant of their accompanying dilemmas. This section includes annotations of descriptive articles and research reports that seek to answer or provide insight into some of the following questions: What percentages and criteria should be used to determine independent, instructional, and frustration levels? Are word recognition tests useful? Should miscues be counted qualitatively or quantitatively (or both)? Is it inappropriate to count some miscues? What role does interest play in a student's reading performance? Can classroom teachers administer and interpret IRIs without special training? Do different IRIs yield similar or divergent results? While these questions do not exhaust the dilemmas associated with IRIs, they are representative of the types of questions which lead to different answers among professionals.

Descriptive Reports

EKWALL, ELDON E. "Informal Reading Inventories: The Instructional Level," *Reading Teacher*, 29 (April 1976), 662-665.

Deals with the confusion and misunderstanding over the instructional level in reading and attempts to clarify what is meant by the instructional level according to authors such as Betts and Johnson and Kress. Evidence is presented in support of their original criteria for frustration and independent levels. Author concludes that the original criteria given by Betts and by Johnson and Kress are approximately correct if repetitions are counted as errors.

FROESE, VICTOR. "IRIs at the Secondary Level Re-Examined," in Phil L. Nacke (Ed.), *Interaction: Research and Practice for College-Adult Reading*. Clemson, South Carolina: National Reading Conference, 1974, 120-124.

Presents a brief review of the literature on IRIs and attempts to delineate the problems related to using IRIs at the secondary level. Among ten problems considered by the author are: IRIs constructed by different authors do not necessarily agree on the functional levels they predict, differing criteria may result in different placement, types of errors scored will affect reading level, comprehension questions vary considerably in type and predictive value, errors may be counted qualitatively or quantitatively, and the interest factor is not controlled across IRIs. In view of these unsolved problems, the author stresses the need for further research.

GUSZAK, FRANK J. "Dilemmas in Informal Reading Assessments," *Elementary English*, 47 (May 1970), 666-670.

Includes a brief discussion of general aspects of the IRI and focuses upon some of the difficulties inherent in its use, notably the unresolved concern over word recognition, comprehension, and fluency determinants. Several research questions are posed which the author considers implicit to determining the validity of various factors and concepts involved in the use of IRIs.

HUNT, LYMAN C., JR. "The Effect of Self-Selection, Interest, and Motivation Upon Independent, Instructional, and Frustrational Levels," *Reading Teacher*, 24 (November 1970), 146-151, 158.

Deals with concerns over the conventional use of reading levels. Author expresses that more than an assessment of the child's reading level is necessary and suggests the need to examine the effects of self-selection, interest, and motivation upon reading levels. Includes a discussion of reading as a search for meaning and some questions designed to facilitate the student's search for meaning.

KENDER, JOSEPH P. "How Useful Are Informal Reading Tests?" *Journal of Reading*, 11 (February 1968), 337-342.

Discusses the limitations of informal reading tests and the frequent disagreement among authorities over their construction and precise scoring. Experimental research studies conducted by Killgallon, Cooper, and McCracken on the criteria for scoring informal reading tests are cited and their findings discussed. Author emphasizes that informal reading tests can be used most effectively if they are constructed from materials the pupil will be reading and if they are administered by knowledgeable, experienced examiners.

KENDER, JOSEPH P. "Informal Reading Inventories," *Reading Teacher*, 24 (November 1970), 165-167.

Contends that informal measures, although more efficient than achievement tests, prove more pragmatic than scientific in the placing of children in instructional materials. Research studies cited of traditional and emerging criteria are classified as not experimentally valid. Article includes considerations of inventories by McCracken and Botel, as well as reference sources.

LOWELL, ROBERT E. "Problems in Identifying Reading Levels with Informal Reading Inventories," in William K. Durr (Ed.), *Reading Difficulties: Diagnosis, Correction, and Remediation*. Newark, Delaware: International Reading Association, 1970, 120-126.

Author buffets the concepts of the independent, instructional, and frustration levels by presenting various arguments and citing supportive evidence. Weaknesses external to and inherent in the testing procedures may be strong enough to invalidate the concepts upon which the IRI is built. The inability of untrained classroom teachers to identify reader needs is especially influencing, as these teachers may have predetermined biases about reading levels and may possess

an improper concept of reading. The author further points out that the distinctions between the three levels may be too fine. In relation to the main testing technique of oral reading, the author states three objections: 1) oral reading at sight is contrary to classroom practice and may not be a valid testing tool; 2) judging word errors and noting phrasing, inflectional changes, and symptoms of difficulty may present discrepancies; and 3) oral reading improves with rereading or preparation. Which performance should be used as adequacy of performance? Reading performance is also influenced by content and potential interest of a selection and by the individual's desire to read. A suggestion is made that more attention be given to reader interest and less attention to examiner judgment, finely differentiated levels of performance, and oral reading.

MAGINNIS, GEORGE H. "The Readability Graph and Informal Reading Inventories," *Reading Teacher*, 22 (March 1969), 516-518, 559.

Author is concerned about the problem that many passages chosen for IRIs are not typical of the reading level they are intended to represent. The use of the readability graph developed by Fry is viewed as a partial solution to this problem. Adjustments are suggested which eliminate or lessen some of the initial drawbacks associated with using Fry's Readability Graph.

MARQUARD, RICHARD L. "Reading Levels—A Second Look," *Elementary English*, 50 (January 1973), 95-96, 102.

Deals with some of the particular problems involved in determining a child's reading levels and the subsequent difficulties involved in using this information, once it has been obtained. Emphasizes the requirement of teacher judgment in interpreting the child's reading levels. The author further states that determining the child's status in terms of his reading levels is comparatively less significant than the issues of strategies for instruction and the personal motivations of the learner.

POWELL, WILLIAM R. "The Validity of the Instructional Reading Level," in Robert E. Leibert (Ed.), *Diagnostic Viewpoints in Reading*. Newark, Delaware: International Reading Association, 1971, 121-133.

Contends that the true value of the IRI is not the identification of a child's instructional level, but the opportunity it affords for the in-depth evaluation of reading behavior. The article is intended to present a critical inquiry into the results of an IRI and some of the elements involved in determining those results. Author maintains that there are probably more viable methods of determining the instructional reading level than through the use of an IRI and concludes, therefore, that the IRI should be regarded as a strategy for studying behavior, rather than as a test instrument.

BOTEL, MORTON, JOHN BRADLEY, and MICHAEL KASHUBA. "The Validity of Informal Reading Testing," in William K. Durr (Ed.), *Reading Difficulties: Diagnosis, Correction, and Remediation*. Newark, Delaware: International Reading Association, 1970, 85-103.

Goals of this study were to: 1) propose a six step research design for cross validation between reading tests and readability measures using correlations and matching techniques; and 2) present the results of a pilot study using this design. The article attempts to answer the question, "Which reading test and readability measures provide the best estimate of match between pupil and book for the purpose of instruction?" Scott, Foresman's New Basic Readers and workbooks served as the materials for the study. Summary and conclusion charts are included.

CHRISTENSON, ADOLPH. "Oral Reading Errors of Intermediate Grade Children at Their Independent, Instructional, and Frustration Reading Levels," in J. Allen Figurel (Ed.), *Reading and Realism*, 1968 Proceedings, Volume 13, Part 1. Newark, Delaware: International Reading Association, 1969, 674-677.

Suggests that oral reading serves various purposes, one of which is diagnosis. The study was intended to determine the kinds of oral reading errors children make at the independent, instructional, and frustration levels, and the frequency with which kinds of errors occur at each of these three levels. In analyzing the results of an IRI, three hypotheses were tested. Procedures are stated, and results and implications are discussed. The findings of this study imply that certain types of errors occur with greater frequency at the frustration reading level than at the other reading levels.

EKWALL, ELDON E. "Should Repetitions Be Counted As Errors?" *Reading Teacher*, 27 (January 1974), 365-367.

Discusses the disagreement as to whether repetitions should be counted as errors in administering IRIs. Suggests that the criteria for determining the independent, instructional, and frustration levels are often the same for different inventories and we must agree on what to count as errors if we hope to reach agreement on the placement of students who make numerous repetitions. The article also describes a study conducted by the author in which a polygraph test was used to measure frustration reading levels of students while reading IRI passages. The study was conducted in order to determine whether counting or not counting repetitions as errors would more closely approximate the commonly accepted criteria for the frustration reading level. As a result of the study, the author recommends that all repetitions be counted as errors when administering IRIs.

FROESE, VICTOR. "Word Recognition Tests: Are They Useful Beyond Grade Three?" *Reading Teacher*, 24 (February 1971), 432-438.

Purpose of this study was to determine the concurrence of two different methods of deciding functional reading levels through the use of three different word recognition tests. The three word lists selected for use in this study, though different in some respects, are basically intended to give a grade level prediction. The study involved thirty-five children in grades two, four, and six. Related research and methodology are presented. A discussion, tables dealing with statistical analysis, and some positive (though tentative) results conclude the article.

FROESE, VICTOR. "Functional Reading Levels: From Graded Word Lists?" July 1974. Microfiche ED 102 520.

Investigates the feasibility of using only the McCracken Word List (MWL), a subtest of the Standard Reading Inventory (SRI), rather than the entire SRI to determine functional grade placement in reading. The MWL is one of the few word lists with well-documented reliability and validity. In addition, the MWL has been shown to be highly correlated to other widely used word lists. It was hypothesized that a significant correlation existed between word recognition test results and extended reading as required in the SRI, that all functional levels could be predicted from the word recognition test results, and that fuctional reading estimates could be made from word recognition test results. Testing of 146 elementary grade students indicated that a significant relationship existed between SRI and MWL scores. Consequently, a rule of thumb was suggested for estimating reading levels from MWL scores alone.

GONZALES, PHILLIP C., and DAVID V. ELIJAH, JR. "Rereading: Effect on Error Patterns and Performance Levels on the IRI," *Reading Teacher*, 28 (April 1975), 647-652.

Discusses varying viewpoints on the effect of rereading IRI paragraphs and states that the results of any studies previously conducted on the subject are conflicting and inconclusive. The article then describes a study conducted by the authors to examine the reading performance of third grade developmental readers on repeated oral readings of passages at both their instructional and frustration levels. The study was designed to answer two questions: 1) Is there a change in the incidence of errors upon rereading the passage? 2) What influence does such a change, if any, have on the establishment of instructional levels? Two major implications are derived from the study. Three tables delineating study data are included.

HARDIN, VERALEE B., and WILBUR S. AMES. "A Comparison of the Results of Two Oral Reading Tests," *Reading Teacher*, 22 (January 1969), 329-334.

Investigation described in this article was intended to explore the relationship of the Gray Oral Reading Test to a subjective inventory and thereby provide

additional information about oral reading tests and the analysis of oral reading errors. The subjective reading inventory used during this investigation was an individualized reading test comprised of a series of stories taken from various levels of popular basal readers. Procedures, findings, and conclusions of this study are discussed in detail. This study revealed a substantial difference in the estimated instructional levels for over one-third of the disabled readers under consideration, suggesting a need for further research in this area. The data regarding the frequencies of five types of oral reading errors show that repetitions and substitutions were the most prevalent types of errors.

HAYS, WARREN S. "Criteria for the Instructional Level of Reading," 1975. Microfiche ED 117 665.

Study was designed to discover the answers to two general questions concerning the instructional level of reading: 1) What percentage of word recognition is necessary for second and fifth graders to maintain in order to achieve a certain percentage of comprehension? 2) Are those word recognition percentages the same for both groups? Twenty-five second and twenty-five fifth graders were randomly selected from three middle-class schools. An IRI was developed and administered to each subject. The data were analyzed and median word recognition scores were computed across levels of readability for various bands of comprehension. Subjects were asked to read two comparable passages at each level, one orally at sight and the other silently at sight. The results indicated that most second and fifth graders needed to achieve a word recognition score of at least 98 or 99 percent on the oral passage in order to have an accompanying comprehension score of at least 75 percent on the silent passage. Most second graders who achieved less than 92 percent recognition had accompanying comprehension of less than 50 percent. Most fifth graders who achieved less than 96 percent had accompanying comprehension scores of less than 50 percent.

JOHNS, JERRY L. "Informal Reading Inventories: A Survey among Professionals," May 1976. Microfiche ED 120 665.

A group of twenty-four professionals who attended a conference in the Chicago area responded to twenty-four statements about IRIs. Because the sample was small the results were analyzed for general trends. Only one area was perceived as "no problem." That area included the usability of the IRI by specialists in schools or clinics. Problem areas included the accurate placement of students, differences between IRIs and standardized test results, and a number of specific components of IRIs: topics of reading selections, comprehension questions, counting miscues, and differences in oral and silent reading. Uncertainty existed with regard to isolated word lists and the validity and reliability of IRIs. It was concluded that professionals can use the results of the study to provide instruction and inservice training for obtaining greater insights into IRIs.

KENDER, JOSEPH P. "An Analysis of Factors Associated with Informal Reading Tests at the Eighth Grade Level," April 1968. Microfiche ED 019 206.

The author, cognizant that IRIs tend to possess the same general goals and that IRIs constructed from functional materials are more accurate than standardized tests, notes that thoughts are conflicting about the construction and scoring of an IRI. Disagreement may be the result of a relative absence of research in this area. The study cited, involving eighth grade students, focused on five major factors: 1) How close are the instructional levels that are yielded by three different IRIs? 2) How close are the instructional levels when assigned by the Killgallon and Cooper criteria? 3) Does asking comprehension questions after oral reading at sight yield poor results because of a student's preoccupation with word recognition? 4) What is the difference in instructional levels if assignment is made on the basis of oral reading with comprehension or on oral reading alone? 5) Should vocalization be considered in assigning instructional levels?

MCCRACKEN, ROBERT A. "The Oral Reading Performance of a Second Grade Class Using an Informal Reading Test," *Journal of Educational Research*, 55 (November 1961), 113-117.

The author conducted a study using an IRI in a second grade classroom for the expressed purposes of recording performances of children in reading materials below, at, and above grade level and comparing the oral performances of good, average, and poor readers. The testing procedures and results are given. Also included are tables indicating speed, comprehension percentage, total number of oral reading errors, errors per one hundred running words, and the number and percentage of qualitative errors. Implications of the results view errors quantitatively, not qualitatively.

MCCRACKEN, ROBERT A., and NEILL D. MULLEN. "The Validity of Certain Measures in an I.R.I.," in William K. Durr (Ed.), *Reading Difficulties: Diagnosis, Correction, and Remediation*. Newark, Delaware: International Reading Association, 1970, 104-110.

States the purpose of this analysis was to determine if the data from two IRIs and one standardized achievement test would support the concepts of the three reading levels. The Standard Reading Inventory (SRI), Basic Reading Inventory, and the California Test of Mental Maturity are considered. The discussion of results does not confirm the validity of the concept of instructional level or its criteria, but the data affirms that something labeled "instructional level" can be measured validly. Subtests of the SRI are analyzed briefly.

PACKMAN, LINDA. "Selected Oral Reading Errors and Levels of Reading Comprehension," in Howard A. Klein (Ed.), *The Quest For Competency in Teaching Reading*. Newark, Delaware: International Reading Association, 1972, 203-208.

Discusses the problem involved in determining the three reading levels using different IRIs because of the disagreement which exists among reading specialists over the significance of various types of reading errors and how the errors should be counted. Author describes a study conducted to investigate whether some oral reading errors are more significant than others in evaluating a pupil's performance in reading at six reading comprehension levels. Article includes a discussion of study design, statistical analysis of the data, and five conclusions and implications based on the statistical results of the investigation.

POWELL, WILLIAM R. "Reappraising the Criteria for Interpreting Informal Inventories," in Dorothy L. DeBoer (Ed.), *Reading Diagnosis and Evaluation*. Newark, Delaware: International Reading Association, 1970, 100-109.

Central premise of this article is that the word recognition criterion, originally formulated by Betts, is incorrect for designating the instructional reading level on an IRI. Author presents data and information supporting his premise, including information on the Betts-Killgallon criteria, the Cooper investigation, and reports by Daniels and Schummers. Article also includes data from a study conducted by the author to support his original premise. Author concludes there is strong evidence to suspect the validity of the Betts criteria.

POWELL, WILLIAM R. "Validity of the IRI Reading Levels," *Elementary English*, 48 (October 1971), 637-642.

Focuses on the discrepancies between various sets of criteria by which different authorities define the instructional level. The paper also seeks to offer congruent validity for one of those criteria sets, at least as far as the dimension of word recognition miscues is concerned. Author contends that the instructional level as designated by the IRI is an unvalidated construct. Previously, the author held the position that as long as 70-75 percent comprehension was maintained, the word recognition error patterns could be tolerated. Observation, however, gave rise to the thought that word recognition criteria may be a function of the difficulty of materials and the age and/or grade of the child. Eight sets of criteria were offered for comparison. Standardized oral tests provided the data for five of these sets. Conclusions tended to support the disuse of the Betts criteria (Word Recognition, 95 percent). Criteria which attempted to reflect the progression of the increase of language difficulty and the reader's response to this increase appeared to be more suitable. Powell stated that his criteria more nearly resembled children's actual performance, though all criteria need further verification.

COMPARING INFORMAL READING INVENTORIES AND STANDARDIZED TESTS

This section includes articles which discuss the relative merits and limitations of standardized and informal testing. These selections reveal the controversy over determining how relationships can be established between standardized and informal measures as well as the comparative usability of these two types of tests.

Most research reports in this area support the generalization that standardized reading survey tests, *on the average*, overestimate students' instructional levels. The problem with such a generalization is that group averages don't usually permit valid conclusions about *individuals*. Although the correlations between standardized reading survey tests and IRIs are quite high (.70-.85), survey tests should not be used to place students in instructional materials. Since standardized tests are not intended for that purpose, it is unlikely that accurate placement will result. Professionals need to realize that standardized group tests yield only general trends and group averages. Although reading authorities have differing opinions regarding the relationship of standardized test scores and functional reading levels, it seems clear that standardized test results are unreliable indicators for placing students in instructional materials.

BOTEL, MORTON. "A Comparative Study of the Validity of the Botel Reading Inventory and Selected Standardized Tests," in J. Allen Figurel (Ed.), *Reading and Realism*, 1968 Proceedings, Volume 13, Part 1. Newark, Delaware: International Reading Association, 1969, 721-727.

Contends that there are a minimum of four problems concerning the validity of an IRI and these four problems are largely ignored in the development and use of IRIs. The purpose of this study was to determine the extent of relationship between the Botel Reading Inventory and several standardized tests, and the instructional levels of students in grades one through six. Five hypotheses are stated, as well as procedures employed. Correlational findings and data are presented in eight tables. The findings of the study suggest that the Botel Reading Inventory may be superior to the standardized silent reading tests used in this study for placing students at their instructional levels.

BURGETT, R. E., and N. A. GLASER. "Appraising the Revised Standardized Reading Test," *Elementary English*, 50 (January 1973), 71-74.

Reviews previous research on how closely the scores attained on standardized reading tests approximate actual instructional reading levels as determined by use of an IRI. Cites a recent study involving approximations of instructional

reading levels by the Gates-MacGinitie Reading Test and an IRI and suggests that the results of this recent study are not consistent with generalizations made in earlier studies. Authors conclude that the generalization which suggests subtracting one year from the attained score on a survey-type reading test, in order to identify the instructional level, may need to be reexamined in view of the new and revised reading survey tests. Article includes a table containing data from the comparative study of the revised Gates-MacGinitie Reading Test and an IRI.

DANIEL, JOHN EMERSON. "The Effectiveness of Various Procedures in Reading Level Placement," *Elementary English*, 39 (October 1962), 590-600.

Discusses a study concerned with investigating several commonly used reading placement tests and the differences among these tests in providing grade placement scores. Study was conducted using a third grade class and comparing the Gates Advanced Primary Reading Tests, the Bucks County Reading Test, the Killgallon Informal Reading Inventory (instructional and frustration levels), and the Killgallon Informal Reading Inventory with modified instructional criteria. The author concludes that, generally, any of the instruments reviewed could be used as grade placement criteria but the teacher should keep in mind the ease of administration of certain standardized tests along with diagnostic advantages of the IRI. The article includes eight tables containing the results of statistical analyses of the study data.

DAUGS, DONALD ROGER. "Evaluation of the Influence of Multi-Level Reading Materials on the Achievement of Fifth Grade Elementary Science Pupils When Placed at Reading Level by an Informal Reading Inventory," May 1970. Microfiche ED 040 865.

Purpose of this study was to evaluate statistically the influence of student placement at reading level using an IRI in one elementary science series. Three treatment groups were formed using twenty-one fifth grade classes. Group One students read at one of five levels as indicated by an individual IRI. Group Two students read at one of five levels as determined by a group IRI. Group Three students read only at the middle of five levels as designated by the publishers. Analysis of variance revealed no significant differences among groups. Results indicated that the IRI will place students 1.3 years lower in the materials than would the Metropolitan Reading Achievement Tests. A possible area recommended for further research is teacher effectiveness.

JOHNS, JERRY L. "Do Standardized Tests Rate Pupils Above Their Instructional Reading Levels?" *New England Reading Association Journal*, 8 (Winter 1972-1973), 35-40.

Compares the results from an IRI and a standardized reading test, using thirty-two fourth grade pupils, with the intended objective being to judge the value of using standardized test scores to estimate a pupil's instructional level. Re-

sults from the Silvaroli Classroom Reading Inventory and Survey D of the Gates-MacGinitie Reading Tests were compared. Author suggests that the commonly accepted view that standardized reading tests rate children from one to four grades above their actual achievement level is not justified for the fourth grade class included in this study. The author's conclusion emphasizes that the results of both standardized and informal tests should be used to improve instruction for every pupil.

JOHNS, JERRY L. "Can Teachers Use Standardized Reading Tests to Determine Students' Instructional Levels?" *Illinois School Research*, 11 (Spring 1975), 29-35.

Evaluates a procedure, outlined by Farr and Anastasiow in an IRA Service Bulletin, whereby a teacher may use standardized test scores to determine a student's reading levels provided some IRIs are administered and a relationship is established between the two test scores. The author describes a study that he conducted using the Classroom Reading Inventory and Survey D of the Gates-MacGinitie Reading Tests with a fourth grade class to assess the practicality of the suggested Farr and Anastasiow approach. The author concludes that his study does not confirm that the procedures suggested by Farr and Anastasiow can be used to place students at their instructional levels accurately and stresses the need for further study in this area.

LEIBERT, ROBERT E. "Some Differences Between Silent and Oral Reading Responses on a Standardized Reading Test," paper presented at the International Reading Association Conference, Seattle, Washington, May 1967. Microfiche ED 016 565.

Describes a study which attempted to identify some of the differences between responses on one standardized test, Gates Advanced Primary Reading Test, and the kinds of responses obtained from an IRI. Author investigated possible explanations for the answers pupils chose while taking a silent reading test and discusses how word recognition tests and paragraph tests were conducted and analyzed to determine how and why a child chose certain answers. Leibert concludes that, for many pupils, standardized test scores reflect a maximum instructional level and cannot be expected to be equivalent to a score obtained on an IRI.

MCCRACKEN, ROBERT A. "Standardized Reading Tests and Informal Reading Inventories," *Education*, 82 (February 1962), 366-369.

Reports and discusses a study conducted to compare the grade level ratings of fifty-six sixth grade students on the Iowa Test of Basic Skills and the levels attained on an IRI. The study found that the grade levels obtained on the standardized test were approximately two years higher than the IRI instructional ratings. Author concludes that one must exercise care when interpreting the scores of standardized reading tests.

MCCRACKEN, ROBERT A. "Using Reading as a Basis for Grouping," *Education*, 84 (February 1964), 357-359.

Contends that teachers frequently feel that IRIs are time-consuming and difficult to use; however, teachers may be prone to use the results of IRIs for instructional grouping if the inventories were administered for them by others. Children involved in the project were given an IRI and the Stanford Achievement Tests. The results of each of these tests and the correlations between them are discussed, as well as the extent to which the IRI was successful in determing instructional reading levels.

PLESSAS, GUS P. "Another Look at the Reading Score," in William K. Durr (Ed.), *Reading Instruction*. Boston: Houghton Mifflin, 1967, 313-316.

Discusses the reliability of standardized test scores in the precise determination of an individual's instructional reading level. Author discusses research findings on the subject, offers some possible explanations why a large percentage of students may be incorrectly rated using a standardized test, and concludes with some basic implications considering the data presented.

SIPAY, EDWARD R. "A Comparison of Standardized Reading Scores and Functional Reading Levels," *Reading Teacher*, 17 (January 1964), 265-268.

Describes a research study in which the author attempted to compare objectively the extent to which the level of reading achievement, as measured by three different standardized reading achievement tests, differed from the reading level as estimated by two forms of an IRI. The article points out that even though standardized reading achievement tests and IRIs are frequently employed to estimate a child's level of reading achievement, a review of the literature reveals differing opinions among reading authorities regarding the relationship of standardized test scores and functional reading levels. The author concludes that it is impossible to generalize as to whether standardized reading test scores tend to indicate instructional or frustration level since one must consider the test used and the criteria employed to estimate functional reading levels. Three tables containing study data are included.

WHEELER, LESTER R., and EDWIN H. SMITH. "A Modification of the Informal Reading Inventory," *Elementary English*, 34 (April 1957), 224-226.

Article points out that standardized reading tests are often unreliable indicators of a child's actual instructional reading level. It is suggested that since the graded reader is the principal material used for the instruction of primary children, it is imperative to know the grade levels at which children are functioning in the graded reader. The authors propose that using an IRI, preferably prepared from a series in which the child would be reading, could be a practical and helpful supplement to other test scores. Suggestions on how to find a child's reading level and an IRI checksheet (used at the University of Miami Reading Clinic) are included in the article.

PSYCHOLINGUISTIC INSIGHTS INTO READING ERRORS

The psycholinguistic viewpoint may be of importance to those concerned with the quantitative and qualitative aspects of miscue analysis as it pertains to the IRI. There appears to be an increasing number of professionals who support a qualitative analysis of reading miscues; i.e., attempt to understand what the student is trying to do while reading. The articles in this section are only representative of the available literature and are not intended to be inclusive. Readers interested in psycholinguistic insights into the reading process are encouraged to secure the IRA annotated bibliography entitled *Linguistics, Psycholinguistics, and the Teaching of Reading.*

BURKE, CAROLYN L., and KENNETH S. GOODMAN. "When a Child Reads: A Psycholinguistic Analysis," *Elementary English*, 47 (January 1970), 121-129.

Goodman's Taxonomy of Cues and Miscues in Reading evolved from the premises that nothing a child does when he reads is accidental and that miscues can be organized according to linguistic and psychological characteristics. This article primarily studies a nine-year-old child's reading of a story. The Taxonomy is applied to the child's reading to provide an analysis of syntactic, semantic, and grammatical considerations. Tables and an analysis of intonation, dialect, and further data are included.

GOODMAN, KENNETH S. "A Linguistic Study of Cues and Miscues in Reading," *Elementary English*, 42 (October 1965), 639-643.

Reports the conclusions of a descriptive study of the oral reading of first, second, and third grade children. In this study, reading is regarded as the active reconstruction of a message from written language. Cue systems, used by the reader as he interacts with written material, are delineated. The study is further concerned with the relative ability of children to recognize words in and out of context and the necessity for regressions while reading.

GOODMAN, KENNETH S. "Analysis of Oral Reading Miscues: Applied Psycholinguistics," in Frank Smith (Ed.), *Psycholinguistics and Reading*. New York: Holt, Rinehart and Winston, 1973, 158-176.

Discusses the theoretical base of the reading process according to psycholinguistics. Reading is described as a process in which the reader chooses from the available graphophonic, syntactic, and semantic information only enough to select and predict a language structure which is decodable. A taxonomy of cues and miscues in reading is presented which enables one to analyze miscues and become aware of the reader's strategies.

GOODMAN, KENNETH S. "Reading: You Can Get Back to Kansas Anytime You're Ready, Dorothy," *English Journal*, 63 (November 1974), 61-64.

Discusses reading instruction from a new vantage point based on building upon strengths, while avoiding preoccupation with deficiencies, and respecting the great language learning ability of children. Psycholinguistics is defined and discussed and the concept is developed that miscues are more than simple errors.

GOODMAN, KENNETH S. "Reading: A Psycholinguistic Guessing Game," in Harry Singer and Robert B. Ruddell (Eds.), *Theoretical Models and Processes of Reading* (Second Edition). Newark, Delaware: International Reading Association, 1976, 497-508.

Goodman seeks to refute that "reading is a precise process that involves exact, detailed sequential perception and identification of letters, words, spelling patterns, and large language units." He contends that "reading is a selective process. It involves partial use of available minimal language cues selected from perceptual input on the basis of the reader's expectations. As this partial information is processed, tentative decisions are made to be confirmed, rejected, or refined as reading progresses." Author suggests that reading involves interaction of thought and language. All deviations are not errors. Specific reading examples are included with discussion of each error. Author also includes Chomsky's model of sentence production and its relation to oral reading. Silent reading is considered as needing less graphic information than oral reading. Author concludes with a listing of the eleven steps to the psycholinguistic guessing game and a visual flow chart of the reading process.

GOODMAN, YETTA M. "Using Children's Reading Miscues for New Teaching Strategies," *Reading Teacher*, 23 (February 1970), 455-459.

Deals with the question of how teachers can use children's miscues as tools to help children read. The view that certain miscues are of a higher order than others is expounded and teachers are encouraged to handle their students' errors instructionally through provisions for teaching-learning strategies.

GOODMAN, YETTA M. "I Never Read Such a Long Story Before," *English Journal*, 63 (November 1974), 65-71.

Deals directly with reading miscue analysis and provides some insights into the reading process through studying one child's reading of a story. The child's reading is analyzed in terms of quantity of miscues, graphic and sound similarities, dialect, use of the grammatical system, and comprehension. The author discusses the implications of reading miscue analysis for instruction and concludes with three suggestions for the teacher of reading.

WILLIAMSON, LEON E., and FREDA YOUNG. "The IRI and RMI Diagnostic Concepts Should Be Synthesized," *Journal of Reading Behavior*, 6 (July 1974), 183-194.

Summarizes ten advantages of the IRI and nine questions used to evaluate a reader's errors in the RMI. The authors hypothesize that in synthesizing the RMI concepts with those of the IRI, the advantages of each are enhanced. Enhancement occurs because the RMI questions focus on quality rather than quantity. "To understand quantity, quality must be examined in quantitative units." This article is a descriptive study which supports the thought that reading errors are powerful cues to use in diagnosing reading performance. Thirty intermediate grade students were found to be competent users of their language. Miscues analyzed according to the RMI exhibited reading behaviors different at instructional and frustration levels. The specific behaviors at each level are presented in charts and dicussion. Conclusions support the synthesis of the concepts of the IRI and the RMI.

RELATED FACTORS

This section deals with some additional areas of concern such as the competency of the examiner, motivational factors, and special measurement techniques related to IRIs. The use of the polygraph to help assess reading levels is an interesting and novel approach that may stimulate additional research.

BETTS, EMMETT A. "Reading Problems at the Intermediate-Grade Level," *Elementary School Journal*, 40 (June 1940), 737-746.

Reports selected data collected in a study of seventy-eight fifth grade students. Some of the conditions of the study are listed and the author delineates seven chief purposes with emphasis on difficulties, capacities for compensation, and other selected factors. Five tables and thirteen conclusions are presented.

BRITTAIN, MARY M. "Informal Reading Procedures: Some Motivational Considerations," *Reading Teacher*, 24 (December 1970), 216-219.

Contends that previously published criteria for judging informal reading performance have failed to account for personality variables among children and, therefore, suggests the significance of flexibility in determining individual instructional levels. The author reviews a number of studies that emphasize the importance of considering such aspects of personality as drive level, aspiration level, perceptual style, and cognitive elements of motivation.

DAVIS, EVERETT E., and ELDON E. EKWALL. "Mode of Perception and Frustration in Reading," *Journal of Learning Disabilities*, 9 (August/September 1976), 53-59.

Describes a study which attempted to investigate reading frustration by determining the amount of failure and frustration that can be tolerated without physiological indication of stress. It was hypothesized that different personality structures may be employed to predict the frustration reading levels of elementary school children. Discusses subject selection and testing procedures, including a thorough description of the IRI and polygraph procedures. Results of this study indicate that, for the majority of children, instructional reading passages must be no more difficult than to allow for about 5 percent oral reading errors.

DELLA-PIANA, GABRIEL, BETTY JO JENSEN, and EVERETT MURDOCK. "New Directions for Informal Reading Assessment," in William K. Durr (Ed.), *Reading Difficulties: Diagnosis, Correction, and Remediation*. Newark, Delaware: International Reading Association, 1970, 127-132.

The authors feel that while possessing the worthwhile goal of prescriptive teaching, the IRI is an instrument that is far too time-consuming for the regular classroom teacher. They contend that many of the procedures of IRIs can be built into instructional material; thus, the teacher becomes a trouble-shooter and focuses attention to on-the-spot diagnosis. A sample exercise is presented in simulation with this thrust of informal reading diagnosis.

EKWALL, ELDON E., and JUDY K. ENGLISH. "The Use of the Polygraph to Determine Elementary School Students' Frustration Reading Level," May 1971. Microfiche ED 052 915.

The researchers used a polygraph to examine several factors related to reading frustration on IRIs. The study involved third, fourth, and fifth grade students and had two primary concerns: 1) to determine if factors of intelligence, age, sex, ethnic background, reading level, or personality type influenced the point at which reading frustration is reached; and 2) to validate and stabilize the criteria for scoring IRIs. Findings show reading level, intelligence, emotional control, cognitive style, and perceptual acuity did affect the frustration level but age, sex, and ethnic background did not significantly do so. Recommendations for additional research and applications of this study are made; tables and a glossary are included.

EKWALL, ELDON E., JUDY K. ENGLISH SOLIS, and ENRIQUE SOLIS, JR. "Investigating Informal Reading Inventory Scoring Criteria," *Elementary English*, 50 (February 1973), 271-274, 323.

Relates a study, the purpose of which was to use the polygraph to validate the criteria for scoring IRIs and to determine whether any one set of criteria is applicable to certain students considering intelligence, age, sex, ethnic background, reading level, or personality type. After a purposive sampling of 150 students in grades three through five, 62 children were selected for the study. The authors concluded that intelligence level, general reading level, and some personality traits appear to affect the level at which a particular reader becomes frustrated.

KELLY, DEAN. "Using an Informal Reading Inventory to Place Children in Instructional Materials," in William K. Durr (Ed.), *Reading Difficulties: Diagnosis, Correction, and Remediation*. Newark, Delaware: International Reading Association, 1970, 111-119.

Author assumes that the IRI represents one of the most powerful tools of individualized measurement. The writer hypothesizes that its greatest disadvantage is linked with the competency of the examiner, since the validity of IRI data is obtained almost entirely through the competency of the examiner. A specific experiment is cited offering plausible suggestions for designing inservice education programs. Goals are to provide classroom teachers with knowledge of and ability in administering IRIs to choose reading materials for students more appropriately, to increase sensitivity to classroom reading needs, and to im-

prove instruction. The findings of this experiment indicate that: 1) inservice training before classroom assignments in materials are made yields greater teacher sensitivity to instructional levels; 2) pupils assigned to materials with the use of an IRI possess better reading attitudes; and 3) primary grade teachers are more aware of instructional levels than intermediate grade teachers. A list of references is included.

PRESTON, RALPH C. "Watch for Pitfalls in Testing Oral Reading," *Reading Teacher*, 7 (April 1954), 232-233.

States the importance of evaluation by oral reading but discusses pitfall areas and the possible negative results of such a technique. Oral reading tests are subject to misleading results. Specifically, oral reading may 1) arouse disagreeable associations in the child; 2) degrade a child's pride and morale; and 3) cause unreliability to exist as a result of a lack of rapport. Three case studies are cited as checks on the reliability of oral reading. The author suggests several techniques including establishing rapport, supplying unknown words, presenting a nonreading task before a reading task, obtaining more than one sample of oral reading, and using passages that vary in difficulty to improve the reliability of oral reading tests.

RUGEL, ROBERT P. "Arousal and Levels of Reading Difficulty," *Reading Teacher*, 24 (February 1971), 458-460.

This investigation had two purposes: 1) to determine if physiological arousal as measured by the Galvanic Skin Response (GSR) increases as a child proceeds from the independent to instructional to frustration levels; and 2) to evaluate the potential usefulness of GSR responses as indicators of anxiety in children who have reading problems. Twenty second and third grade students with average reading ability were studied. The results indicated that a child's level of arousal increases as reading difficulty increases, and that GSR is probably a useful diagnostic instrument with problem readers.

WUNDERLICH, ELAINE, and MARY BRADTMUELLER. "Teacher Estimates of Reading Levels Compared with IRPI Instructional Level Scores," *Journal of Reading*, 14 (February 1971), 303-308, 336.

The Individual Reading Placement Inventory (IRPI) is a standardized inventory designed to provide teachers with a rapid means of assessing the instructional reading levels of students up to seventh grade. The study reviewed in this article was an investigation of the discrepancy between teacher estimates of student reading ability and the actual level as determined through the use of the IRPI. The procedures and results of the study are discussed. The data suggest that middle school teachers included in the study were unable to make accurate assessments of the reading levels of their students.

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UNPUBLISHED MATERIALS

This section contains unpublished master's theses and doctoral dissertations that may serve as additional resources for those interested in further learning.

BROWN, DIANNE B. "The Preparation, Use, and Analysis of Results of the Informal Reading Inventory," master's thesis, University of New Mexico, 1968.

BROWN, SANDRA R. "A Comparison of Five Widely Used Standardized Reading Tests and an Informal Reading Inventory for a Selected Group of Elementary School Children," doctoral dissertation, University of Georgia, 1963. *Dissertation Abstracts*, 25, 996.

CHRISTENSON, ADOLPH. "A Diagnostic Study of Oral Reading Errors of Intermediate Grade Children at Their Independent, Instructional, and Frustration Reading Levels," doctoral dissertation, Colorado State College, 1966.

COOPER, J. LOUIS. "The Effect of Adjustment of Basal Reading Materials on Reading Achievement," doctoral dissertation, Boston University, 1932.

DANIELS, KATHARINE. "Evaluation of Informal Reading Tests," master's thesis, Boston University, 1939.

DAVIS, SISTER M. CATHERINE ELIZABETH. "The Relative Effectiveness of Certain Evaluative Criteria for Determining Reading Levels," doctoral dissertation, Temple University, 1964. *Dissertation Abstracts*, 25A, 3967.

DENNY, JAMES. "A Diagnostic Study of Reading Achievement of Third Grade Students," master's thesis, Clark College, 1970.

DUNKELD, COLIN G. "The Validity of the Informal Reading Inventory for the Designation of Instructional Reading Levels: A Study of the Relationships Between Gains in Reading Achievement and the Difficulty of Instructional Materials," doctoral dissertation, University of Illinois, 1970.

GIPE, JOYCE. "An Investigation of the Informal Reading Inventory Technique," master's thesis, University of New Mexico, 1967.

KILLGALLON, PATSY ALOYSIUS. "A Study of Relationships among Certain Pupil Adjustments in Language Situations," doctoral dissertation, Pennsylvania State College, 1942.

LADD, ELEANOR. "A Comparison of Two Types of Training with Reference to Developing Skill in Diagnostic Oral Reading Testing," doctoral dissertation, Florida State University, 1961. *Dissertation Abstracts*, 22, 2707.

LUCAS, VIRGINIA H. "Development of an Informal Reading Assessment Inventory for Teachers Trained in Directive Teaching," doctoral dissertation, Ohio State University, 1973. Microfiche ED 084 509.

MCCRACKEN, ROBERT A. "The Development and Validation of the IRI for the Individual Appraisal of Reading Performance in Grades One Through Six," doctoral dissertation, Syracuse University, 1963. *Dissertation Abstracts*, 24, 5200.

MILLSAP, LUCILLE N. "A Study of Teachers' Awareness of Frustration Reading Levels Among Their Pupils in Basal Readers," doctoral dissertation, University of Oregon, 1962. *Dissertation Abstracts*, 23, 2809.

PATTY, DELBERT L. "A Comparison of Standardized Oral Reading Scores and Informal Reading Inventory Scores," doctoral dissertation, Ball State University, 1965.

SHARP, LAURA LEE. "An Evaluation of an Informal Reading Inventory in a Fifth Grade Classroom," master's thesis, University of New Mexico, 1968.

SIPAY, EDWARD R. "A Comparison of Standardized Reading Achievement Test Scores and Frustration Reading Levels," doctoral dissertation, University of Connecticut, 1961. *Dissertation Abstracts*, 22A, 2639.

WILLIAMS, JOAN LEE. "A Comparison of Standardized Reading Test Scores and Informal Reading Inventory Scores," doctoral dissertation, Southern Illinois University, 1963. *Dissertation Abstracts*, 24A, 5262.

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PUBLISHED READING INVENTORIES

NAMES OF TESTS (Publication Date) (Levels/Number of Forms)	PUBLISHERS	MAJOR TESTS	COSTS AND CONTENTS	
			Specimen Sets	Classroom Sets
Botel Reading Inventory (1966) (grades 1-4; "Word Opposites" for grades 1-12/1 form)	Follett Educational Corp. 1010 W. Washington Blvd. Chicago, IL 60607	1. Word Recognition (0862) 2. Word Opposites Reading (0863) 3. Word Opposites Listening (0864) 4. Phonics Mastery (0865)	$4.11 (request #0885). Includes teacher's guide, sample tests, class and instructional group summary sheets.	$12.24. Includes 35 copies of each major test, teacher's guide, instructions for administration and scoring. ($3.06 for 35 copies of one test.)
Classroom Reading Inventory (1976) (grades 2-8/3 forms: A, B, and C)	Wm. C. Brown Co. 135 S. Locust St. Dubuque, IA 52001	1. Word Recognition 2. Oral and Silent Paragraph Reading 3. Potential Reading Level 4. Spelling Survey	None available; however, the necessary materials for administering the inventory cost $3.95.	$3.95. The teacher has the publisher's permission to reproduce necessary record pages.
Individual Reading Placement Inventory (1969) (pp-7/2 forms: A and B)	Follett Educational Corp. 1010 W. Washington Blvd. Chicago, IL 60607	1. Word Recognition 2. Oral Paragraph Reading 3. Auditory Discrimination 4. Potential Reading Level 5. Letters of the Alphabet	$5.29 for Administrator's/ Teacher's Packet (request 2107-Form A; 2109-Form B). Includes manual, two word recognition wheels, paragraph reading cards.	$13.77. Includes 40 student inventory booklets, user's manual, and complete testing materials.
Informal Evaluation of Oral Reading Grade Level (1973) (p-grade 8/1 form)	Book-Lab, Inc. 1449 37th St. Brooklyn, NY 11218	1. Oral Paragraph Reading 2. Potential Reading Level	None available; however, the necessary materials for administration cost $4.25.	$4.25. Includes three basic reading selection booklets (reusuable), 35 evaluation summary forms, and instructions for the teacher.

PUBLISHED READING INVENTORIES (continued)

NAMES OF TESTS (Publication Date) (Levels/Number of Forms)	PUBLISHERS	MAJOR TESTS	COSTS AND CONTENTS	
			Specimen Sets	Classroom Sets
McGrath Test of Reading Skills (1967) (grades 1-freshman in college/1 form)	McGrath Publishing Co. Box 535 Whitmore Lake, MI 48189	1. Word Recognition 2. Oral Paragraph Reading 3. Word Meanings	$2.00 (request specimen copy). Includes one complete record booklet and directions for administration.	$38.00. Includes 40 record booklets complete with instructions.
Pupil Placement Tests (1970) (pp-grade 9/1 form)	Houghton Mifflin Co. 1900 S. Batavia Ave. Geneva, IL 60134	1. Word Recognition 2. Oral and Silent Paragraph Reading 3. Potential Reading Level	$3.42 (request 1-25951 and 1-25953). Includes teacher's manual and test materials. (Manual only 66¢. Request 1-25951.)	$13.71 (request 1-25950). Includes 35 pupil summary booklets, teacher's manual, and testing materials.
Reading Placement Inventory (1973) (p-grade 9/1 form)	The Economy Co. Box 25308 1901 N. Walnut Oklahoma City, OK 73125	1. Word Recognition 2. Oral Paragraph Reading	$3.15 (request 551-1). Teacher's manual (includes sample test items).	$7.11 (request 55-1 and 550-3). Includes teacher's manual and 35 student test booklets with record keeping system.
Standard Reading Inventory (1971) (pp-grade 7/2 forms: A and B)	Klamath Printing Co. 320 Lowell St. Klamath Falls, OR 97601	1. Word Recognition 2. Oral and Silent Paragraph Reading 3. Potential Reading Level	$8.00 (request AB 120). Learner's Kit: manual, stories, word cards and holder, and record booklets for Forms A and B.	$17.00. Includes 40 record booklets and complete testing materials.